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# Educating registered nursing and healthcare assistant students in community-based supportive care of older adults: A mixed methods study☆

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SUMMARY

*Background:* Collaborative education that prepares nursing and healthcare assistant students in supportive care for older adults living at home with advanced chronic illness is an important innovation to prepare the nursing workforce to meet the needs of this growing population.
*Objectives:* To explore whether a collaborative educational intervention could develop registered nursing and healthcare assistant students' capabilities in supportive care while enhancing care of clients with advanced chronic illness in the community.
*Design:* Mixed method study design.
*Setting:* A rural college in Canada.
*Participants:* Twenty-one registered nursing and 21 healthcare assistant students completed the collaborative workshop. Eight registered nursing students and 13 healthcare assistant students completed an innovative clinical experience with fifteen clients living with advanced chronic illness.
*Methods:* Pre and post-test measures of self-perceived competence and knowledge in supportive care were collected at three time points. Semi-structured interviews were conducted to evaluate the innovative clinical placement.
*Results:* Application of Friedman's test indicated statistically significant changes on all self-perceived competence scores for RN and HCA students with two exceptions: the ethical and legal as well as personal and professional issues domains for HCA students. Application of Friedman's test to self-perceived knowledge scores showed statistically significant changes in all but one domain (interprofessional collaboration and communication) for RN students and all but three domains for HCA students (spiritual needs, ethical and legal issues, and inter-professional collaboration and communication). Not all gains were sustained until T-3. The innovative community placement was evaluated positively by clients and students.
*Conclusions:* Collaborative education for nursing and healthcare assistant students can enhance self-perceived knowledge and competence in supportive care of adults with advanced chronic illness. An innovative clinical experience can maximize reciprocal learning while providing nursing services to a population that is not receiving home-based care.


## Introduction

Nursing education programs must prepare students for today's healthcare realities while anticipating nursing care needs of future populations (Pijl-Zieber and Kalischuk, 2011). Today's healthcare realities are shaped by the needs of a population that is aging with multiple and complex chronic illnesses, needs that are expected to increase in future. Some would argue that sustainability of healthcare systems depends upon finding innovative ways to meet the needs of this population (Payne, 2014). Nursing education programs can contribute to this reform by ensuring that future nurses are well-prepared to address care needs and by designing innovative clinical experiences to improve services for this population. In this project, we trialled an educational innovation that consisted of (i) a collaborative workshop for registered nursing (RN) and healthcare assistant (HCA) students in a palliative

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approach to care and (ii) an innovative clinical experience where selected RN and HCA students were partnered to provide care to older adults living in the home with advanced chronic illness who were not yet eligible for home-based nursing services.

## Background

Populations aging with multiple chronic illnesses are changing the landscape of healthcare around the world. The long illness trajectories that blur distinctions between chronic illness and palliative care are creating new care needs (Stajduhar, 2011). To address these needs, there has been increasing emphasis on a palliative approach to care which includes (1) an upstream application of palliative care principles for those living with life-limiting chronic illness and (2) adaptation of palliative care knowledge to a variety of chronic illness conditions (Sawatzky et al., 2014a). A palliative approach is less about prognosis and more about interventions implemented early on to support patients and families in achieving their goals of care (Stajduhar and Tayler, 2014). This shift to a palliative approach has in turn produced new educational needs for nurses. Traditionally, nurses have been educated in chronic illness care and palliative care as separate bodies of knowledge. They must now learn a new body of knowledge that adapts and synthesizes chronic illness and palliative knowledge to better meet the needs of this population. Further, this education needs to be provided to all members of the team who provide care to older adults. Despite acknowledgement of the importance of teamwork for supportive care of the elderly (Head et al., 2014), HCAs are rarely recognized as integral team members outside of the long term care context. HCAs play a central role in home-based care of older adults, and yet, many feel under-prepared in chronic and palliative care (Lunn et al., 2010; McDonnell et al., 2009). Providing collaborative education between registered nursing and healthcare assistant students can help to address these knowledge deficits, promote teamwork in the home setting, and contribute to better care of this population.

Further, a palliative approach to care must be embedded within care delivery systems across contexts (Sawatzky et al., 2014a). Too often there is a mismatch between the needs of this population and the services provided. For example, older adults struggle at home with burdensome symptoms as a result of their advancing chronic illness, (Mason et al., 2014) but may not yet qualify for home-based nursing services. This is particularly true in countries such as Canada where the shift from hospital-based to community-based care varies by jurisdiction. In British Columbia, the site of this study, older adults qualify for government-funded home services only when they require task-related care. As a result, older adults are left to struggle independently with chronic illness symptoms such as fatigue, pain, and diminishing mobility—resulting in poor quality of life (Parker et al., 2014).

This mismatch between needs and services provides important opportunities for innovative educational experiences. In Canada, innovative clinical experiences have often been developed to better serve vulnerable populations (Hoe-Harwood et al., 2009). Older adults living in the home with advanced chronic illness can be considered a vulnerable population because of heavy symptom burden and limited home-care services. There is evidence to suggest that such clinical placements in which older adults are visited in the home by nursing students are both feasible and beneficial. In a study conducted in the rural United States nursing students visited older adults in the home conducting home safety assessments, health histories and holistic assessments. Positive outcomes were cited by both students and older adult participants (Walton and Blossom, 2013).

The purpose of this study was to explore whether an educational workshop in a palliative approach and an innovative clinical placement could develop RN and HCA students' capabilities in supportive care[1] while enhancing care of clients living with advanced chronic illness in the community. Objectives of the study were twofold: (1) to develop and evaluate a collaborative educational workshop for RN and HCA students to prepare them for supportive care for adults living with advanced chronic illness. (2) To pilot an innovative clinical placement for RN and HCA students in which they jointly provided supportive care for adults living with advanced chronic illness in the home. This paper will report on the outcomes of the workshop and on the student and client experiences of the innovative clinical experience. Student experiences of receiving collaborative education will be reported in another publication.

## Method

This was a mixed methods convergent study design (Cresswell and Plano Clark, 2011). To evaluate student outcomes, pre and post-test measures of self-perceived competence and knowledge in supportive care were collected prior to the workshop (T-1), immediately after the workshop (T-2) and three months after the workshop (T-3). A sub-set of students who completed the workshop also took part in an innovative clinical placement with adults living with advanced chronic illness in the community. Qualitative semi-structured interviews were conducted with students and clients to evaluate the education and clinical placement.

### *Setting*

The study was conducted in a college in a rural community with a population of approximately 10,000. The college prepares HCAs through a six month program of study and RNs through a four year program of study in partnership with a university.

### *Participants*

Student participants included HCA students who had completed the theory requirements of their program and were now entering the practicum requirement and registered nursing students in their third or fourth year. Students were recruited through advertising and word of mouth at the College. Twenty-one RN and 21 HCA students completed the workshop. Of those, 8 RN and 13[2] HCA students went on to complete the innovative clinical experience. Fifteen RN students (8 from the innovative clinical experience) and 18 HCA (12 from the innovative clinical experience) students returned completed measurements for all three time points. Community client participants ($n = 15$) included adults living with an advanced chronic illness in the community who were not currently receiving home-based nursing services. Clients were recruited through community advertising and word of mouth. Clients were informed that this was an opportunity for students to learn more about client illness experiences and for clients to learn more the management of their illness and the resources available to them. Ethical approval for the study was obtained from the University, College and Health Region Ethical Review Boards. Students and clients signed research consent forms. Students were instructed on research ethics and confidentiality. Client data was anonymized through the use of study numbers.

### *Study Period*

Data collection took place between January and June 2014.

[1] We are using the term supportive care in this study out of respect for clients who have serious advancing chronic illness but who may not yet be ready for the use of palliative terminology.

[2] Fifteen HCA students entered the clinical experience, but not all students completed minimal requirements for various reasons.

*Intervention*

The two-day workshop, which was provided to all student participants, focused on supportive care for those living with advanced chronic illness. The curriculum included illness transitions, symptom anticipation and management and standardized assessment and communication tools for advanced chronic illness conditions (Potter et al., 2015). Collaborative education entailed providing education to RN and HCA students together by providing both a common curriculum and curriculum adapted to their scopes of practice. For example, all students received common content on pain and then breakout sessions were used to teach scope of practice-specific pain management strategies (e.g., RN students were taught pharmacology and HCA students were taught about non-pharmacological interventions such as massage). After the breakout sessions, RN and HCA students reconvened to discuss their learning using a case-study approach. In this way they were exposed to what each group had learned in the breakout sessions.

The innovative clinical experience was conducted over a twelve week period. RN students completed 80 clinical hours, and HCA students completed 20 clinical hours. RN and HCA students conducted individual and joint visits in the home with a focus on learning about the chronic illness experience, determining needs, connecting with resources and engaging in conversations around chronic illness care, including anticipatory care planning. The clinical experience included structured learning assignments designed to improve knowledge of supportive care such as on-line discussions, journal assignments, client rounds and surveys of community resources. Students were provided with tools through which to assess and discuss care (e.g., eco-map, genogram, symptom assessment tools, advance care planning tools). RN and HCA students met together with clients and discussed care needs with a focus on collaborative practice. Students who attended the workshop, but were not included in the innovative placement, completed a regular clinical experience.

*Data Collection*

Self-perceived competence in supportive care was measured using an adaptation of the Palliative Care Nursing Self-Competence Scale (Desbiens, 2011; Desbiens and Fillion, 2011). This 50 item scale evaluates 10 dimensions using a six point Likert scale from 0 (not at all capable) to 5 (highly capable). This scale was adapted to reflect a palliative approach and two versions were used to reflect the different scopes of practices of RNs and HCAs. Reliability and validity of this adapted scale had been established in a previous study where the scale was used as part of a provincial survey of registered nurses and healthcare workers (n = 1468) (Sawatzky et al., 2014b). Knowledge of supportive care was measured using a 12-item knowledge instrument. Respondents rated their knowledge on twelve dimensions using a five-point Likert item from 0 (inadequate) to 4 (more than adequate). Self-perceived knowledge and competence scores were measured pre-workshop (T-1), immediately post-workshop (T-2) and three months post-workshop (T-3).

Outcomes of the innovative clinical experience were evaluated qualitatively. Group and individual semi-structured interviews led by a trained research assistant and the Principal Investigator were conducted with community clients and family members (n = 15 individual interviews); HCA students (3 focus groups: n = 14; individual interviews: n = 3[3]) and RN students (1 focus group: n = 8). Participants were queried about their experiences of the education, the extent to which the education contributed to their ability to engage in supportive care and recommendations for change.

*Data Analysis*

Quantitative data was entered, cleaned and analyzed using SPSSv21. Due to the small sample sizes and some evidence of non-normality in the data, non-parametric methods were used. Friedman tests were employed to test for overall differences between the three time points (T1, T2 and T3). Pairwise comparisons between the time points were then conducted using Wilcoxon Signed-Ranks test with a Bonferroni correction applied to adjust for multiple comparisons. Graphs of mean differences across the time points were also examined descriptively to identify patterns in the increase, decrease, or maintenance of changes pre- and post-workshop.

Individual and group interviews were audio-taped, transcribed, checked for accuracy and entered into NVIVO-9™ for analysis. Initial coding was conducted on student and client data independently. A code book was constructed by two investigators, three interviews were coded and then the codebook was negotiated, refined and used to code the remaining interviews. A thematic account was constructed for student and client data. Those themes were then compared and integrated to create a narrative account of the innovative clinical placement. This thematic account was checked for analytic integrity against the original data by two additional investigators.

## Results

The majority of student participants were female and under the age of 35 (Table 1). Community clients included 9 males and 6 females ranging in age from 50 to 92 (mean of 69) with chronic illnesses including neuromuscular and neurodegenerative diseases, cardiovascular diseases, kidney disease and rheumatoid arthritis. Study results revealed increases in student self-perceived competence for both groups of students after the joint workshop, and mutual learning in the innovative clinical experiences.

*Quantitative Evaluation of Self-Perceived Confidence and Knowledge*

At the pre-workshop baseline (T-1), RN students indicated the lowest self-perceived competence scores in the domains of spiritual, psychological and social needs, although all domains indicated means of greater than three on a five point scale. In contrast, HCA students scored less than three on six of the ten domains (Table 2). Largest mean differences between pre and post-workshops scores for RN students were in spiritual needs, ethical and legal issues, and last hours of life. Largest mean differences for HCA students were in physical symptoms other than pain and last hours of life. Post-workshop, all self-perceived confidence means were greater

**Table 1**
Demographic information for student participants.

| | | RN students (n = 21) | HCA students (n = 21) |
|---|---|---|---|
| Age | 25 or younger | n = 10 (47.6%) | n = 7 (33.3%) |
| | 26–35 | n = 7 (33.3%) | n = 3 (14.3%) |
| | 36–45 | n = 4 (19.0%) | n = 2 (9.5%) |
| | 46–55 | n = 0 (0.0%) | n = 8 (38.1%) |
| | 56–65 | n = 0 (0.0%) | n = 1 (4.8%) |
| Sex | Male | n = 1 (4.8%) | n = 4 (19.0%) |
| | Female | n = 20 (95.2%) | n = 17 (81.0%) |
| Provided care to a loved one with life-limiting illness? | Yes | n = 6 (28.6%) | n = 8 (38.1%) |
| | No | n = 15 (71.4%) | n = 13 (61.9%) |
| Employed to provide care to persons with a life-limiting illness? | Yes | n = 9 (42.9%) | n = 2 (9.5%) |
| | No | n = 12 (57.1%) | n = 19 (90.5%) |

[3] HCAs interviewed individually also participated in focus groups. Individual interviews were offered to those who wished to express their experiences in more detail or in a more confidential environment.

**Table 2**
Mean change in scores on self-perceived competence between pre-workshop (T-1) and post-workshop (T-2).

| | RN students (n = 21) | | | HCA students (n = 21) | | |
|---|---|---|---|---|---|---|
| Competence dimensions[a] | T-1 M (SD) | T-2 M (SD) | Mean change in score (SD) | T-1 M (SD) | T-2 M (SD) | Mean change in score (SD) |
| Physical needs: pain | 3.61 (0.75) | 4.24 (0.52) | .630 (0.63) | 2.82 (0.94) | 3.69 (0.81) | 0.867 (0.76) |
| Physical needs: other symptoms | 3.80 (0.70) | 4.29 (0.53) | .490 (0.61) | 2.79 (1.09) | 3.93 (0.66) | 1.143 (0.79) |
| Psychological needs | 3.15 (0.88) | 3.99 (0.56) | .838 (0.68) | 2.79 (1.02) | 3.55 (0.81) | 0.762 (0.73) |
| Social needs | 3.37 (0.71) | 4.05 (0.66) | .676 (0.48) | 2.77 (0.93) | 3.56 (0.76) | 0.791 (0.74) |
| Spiritual needs | 3.10 (0.86) | 4.07 (0.58) | .962 (0.50) | 2.82 (0.90) | 3.70 (0.79) | 0.876 (0.77) |
| Needs related to functional status | 3.90 (0.76) | 4.41 (0.54) | .505 (0.48) | 3.17 (0.87) | 3.94 (0.69) | 0.771 (0.85) |
| Ethical and legal issues | 3.35 (1.03) | 4.29 (0.58) | .933 (0.76) | 3.40 (1.11) | 3.79 (0.97) | 0.391 (0.66) |
| Inter-professional collaboration and communication | 3.64 (1.00) | 4.55 (0.57) | .914 (0.79) | 3.22 (1.08) | 4.05 (0.89) | 0.829 (0.73) |
| Personal and professional issues related to nursing care | 3.81 (0.72) | 4.50 (0.38) | .686 (0.71) | 3.50 (0.56) | 3.94 (0.52) | 0.448 (0.52) |
| Last hours of life | 3.48 (0.83) | 4.40 (0.48) | .929 (0.76) | 2.66 (1.12) | 3.79 (0.77) | 1.132 (0.84) |

[a] All dimensions included 5 items measured on a 5-point scale. 0 = not at all capable 5 = highly capable.

than three for healthcare worker students and four, or greater, for RN students.

Application of Friedman's test indicated statistically significant changes on all self-perceived competence scores for RN and HCA students with two exceptions: HCA students demonstrated no changes on the domains of ethical/legal or personal/professional. Pair-wise application of the Wilcoxon test with Bonferonni corrected levels of observed significance indicated these differences occurred between T-1 and T-2. However, only half of these domains also illustrated differences between T-1 and T-3 suggesting that the changes were not sustained until the third measurement point (Table 3). [4] No domain scores showed statistically significant differences between post-workshop scores (T-2) and post-clinical scores (T-3).

Application of Friedman's test to self-perceived knowledge scores showed statistically significant changes in all but one domain (inter-professional collaboration and communication) for RN students and all but three domains (spiritual needs, ethical and legal issues, and inter-professional collaboration and communication) for HCA students (Table 4). Pair-wise application of the Wilcoxon test with Bonferonni corrected levels of observed significance indicated significant differences for RN students on ten domains between T-1 and T-2. However, five of these domains (physical needs, pain; physical needs, other; loss and grief support; interprofessional collaboration and communication and personal and professional issues) failed to show changes between T-1 and T-3, indicating that those initial gains were not sustained until the third measurement point. Interestingly, the domain of ethical and legal issues only showed significant changes between T-1 and T-3. For HCA students, seven domains showed significant changes between T-1 and T-2. However two domains (loss and grief support and needs related to functional status) did not show statistically significant differences between T-1 and T-3, suggesting that the gains were not sustained until T-3. The domain of social needs only showed significant differences between T-1 and T-3. No self-perceived knowledge scores, for either HCAs or RNs, changed significantly between T-2 and T-3.

### *Qualitative Evaluation of Innovative Clinical Experience*

The study aimed to enhance the care of those living with life-limiting chronic illness. We evaluated this aim through qualitative interviews with students and clients. The following themes were developed from the data: reciprocal learning; relationship through place, time and space; and role uncertainty.

#### *Reciprocal Learning*

Clients and students learnt from one another through the experience. Clients spoke of how students connected them with resources in the community and facilitated their process of thinking about health in new ways. Students helped clients to think about resources they might need in future, an important aspect of advance care planning. Clients explained how students brought a fresh perspective to their care, enabling them to think about options that they might not otherwise think or talk about. "*You know I'm here on a small farm. I'm by myself, so I get pretty regimented and opinionated. But, she got me thinking, as the saying goes nowadays, outside of the box*" (CC). One family member shared how her father (the client) had resisted assistance with meal planning prior to the student visits. But after discussing options with the student, he agreed to receive meals on wheels and was enjoying the service.

Clients recognized that not only were they learning new ways, but that their experiences were contributing to student learning. For example, this participant shared how important it was for students to learn about clients' lives outside of an institutional context. "*They see us in the hospital where you can't even feed yourself, you can't wipe yourself, hold onto a glass of water, and they see that and think maybe that is all there is for these people."(CC)*. Clients also taught students about the acceptability of some healthcare interventions. One family member recounted the challenges her elderly parent had assigning a number to his pain. "*It helped the student to learn that sometimes there are some bizarre things that they [clients] don't agree with or can't express. I mean this pain thing—you know describe the pain on a scale of 1 to 10-. But he [client] sort of adamantly refused that he can't categorize pain in that way" (*CF). Other participants told stories of how they adopted the role of encouraging students and teaching them about how to stay healthy over time. Overall, clients recognized they were investing in students' futures and that this might have a long term effect on care.

Students too recognized the value of what they were learning from clients. They had an intimate look at the social determinants of health and a deeper awareness of the resources available in the community. One student spoke of gaining an appreciation of clients' adaptations to their limitations. "*[She was a] very inventive woman because she had no use of her one arm. So she did all the baking, the cooking, the meals—everything—just amazing. She'd find ways that would work for her" (HCA)*. Another student spoke of how candid participants tended to be "*behind the privacy of the doors*" and how this enabled them to get a better grasp of what was needed in the context of care. "*When you're right there in the middle of their living room you can see—and they tell you what they need" (HCA)*. One student was surprised when a client brought up the topic of sexual health. She did not know how to

[4] Wilcoxon signed-rank tests indicated statistically significant ($p < .05$) differences in scores for all domains across RN and HCA students from T1 to T2 and all but one domain (for RNs) from T1 to T3. However, with the Bonferroni correction applied, some of these changes were no longer statistically significant.

**Table 3**
Self-perceived competence scores for RN students and HCA students at pre-workshop (T-1), post-workshop (T-2) and (T-3).

| | Chi sq | p | T-1 to T-2 | | T-1 to T-3 | | |
|---|---|---|---|---|---|---|---|
| | | | Z | p | Effect size (r) | Z | p |
| *RN students (n = 15)* | | | | | | | |
| Pain | 11.585 | 0.003* | −3.431 | 0.001* | 0.626 | −1.920 | 0.055 |
| Other physical | 11.640 | 0.003* | −2.863 | 0.004* | 0.523 | −2.172 | 0.030 |
| Psychological | 14.179 | 0.001* | −3.795 | 0.000* | 0.693 | −2.640 | 0.008* |
| Social | 17.098 | 0.000* | −3.832 | 0.000* | 0.700 | −2.772 | 0.006* |
| Spiritual | 17.793 | 0.000* | −4.024 | 0.000* | 0.735 | −2.731 | 0.006* |
| Functional status | 11.922 | 0.003* | −3.433 | 0.001* | 0.627 | −2.099 | 0.036 |
| Ethical and legal | 17.782 | 0.000* | −3.836 | 0.000* | 0.700 | −3.014 | 0.003* |
| Collaboration | 11.261 | 0.004* | −3.666 | 0.000* | 0.669 | −2.044 | 0.041 |
| Personal and professional | 12.764 | 0.002* | −3.620 | 0.000* | 0.661 | −2.328 | 0.020 |
| Last hours of life | 14.933 | 0.001* | −3.929 | 0.000* | 0.717 | −2.616 | 0.009* |
| *HCA students (n = 18)* | | | | | | | |
| Pain | 22.246 | 0.000* | −3.656 | 0.000* | 0.609 | −3.523 | 0.000* |
| Other physical | 23.343 | 0.000* | −3.756 | 0.000* | 0.626 | −3.626 | 0.000* |
| Psychological | 12.087 | 0.002* | −3.389 | 0.001* | 0.565 | −2.801 | 0.005* |
| Social | 12.925 | 0.002* | −3.632 | 0.000* | 0.605 | −2.313 | 0.021 |
| Spiritual | 10.778 | 0.005* | −3.612 | 0.000* | 0.602 | −2.269 | 0.023 |
| Functional status | 16.394 | 0.000* | −3.275 | 0.001* | 0.546 | −3.523 | 0.000* |
| Ethical and legal | 3.343 | 0.188 | −2.328 | 0.020 | 0.388 | −2.330 | 0.020 |
| Collaboration | 13.531 | 0.001* | −3.361 | 0.001* | 0.560 | −2.733 | 0.006* |
| Personal and professional | 5.556 | 0.062 | −3.070 | 0.002 | 0.512 | −2.153 | 0.031 |
| Last hours of life | 15.408 | 0.000* | −3.827 | 0.000* | 0.638 | −3.154 | 0.002* |

NB 0.5 = large effect; 0.3 = medium effect; 0.1 = small effect.
* Significant at $p < 0.05$ for the Friedman test and at $p < 0.017$ (Bonferonni correction) for the pairwise tests.

proceed with such an intimate topic but explained how the client taught her to care: *"She said hey I don't want you to pose solutions for me right now. I just want you to listen. It made me shake my head. I thought, wow here I am trying to do something but just listening is what I have to be doing right now" (RN)*. In these ways, clients and students described mutual learning, with the clients learning about resources available to them and health-supporting choices, and the students gaining valuable first-hand insights into the social determinants of health and living with chronic illness.

### *Relationship through Place, Time and Space*

In addition to the reciprocal learning that occurred, participants recognized the development of therapeutic relationships through place,

**Table 4**
Self-perceived knowledge scores for RN students and HCA students at pre-workshop (T-1), post-workshop (T-2) and (T-3).

| | Chi sq | p | T-1 to T-2 | T-1 to T-3 | | | |
|---|---|---|---|---|---|---|---|
| Item | | | Z | p | Effect size (r) | Z | p |
| *RN students (n = 15)* | | | | | | | |
| Disease management | 6.889 | 0.032* | −2.111 | 0.035 | 0.385 | −1.265 | 0.206 |
| Physical needs: pain | 6.462 | 0.040* | −2.636 | 0.008* | 0.481 | −0.816 | 0.414 |
| Physical needs: other | 11.091 | 0.004* | −2.599 | 0.009* | 0.475 | −1.933 | 0.053 |
| Psychological needs | 12.562 | 0.002* | −3.035 | 0.002* | 0.554 | −2.762 | 0.006* |
| Loss and grief support | 7.590 | 0.022* | −2.828 | 0.005* | 0.516 | −2.332 | 0.020 |
| Social needs | 13.556 | 0.001* | −3.025 | 0.002* | 0.552 | −2.658 | 0.008* |
| Spiritual needs | 16.919 | 0.000* | −3.448 | 0.001* | 0.629 | −3.066 | 0.002* |
| Needs related to functional status | 10.093 | 0.006* | −3.500 | 0.000* | 0.639 | −2.517 | 0.012* |
| Ethical and legal issues | 7.600 | 0.022* | −2.292 | 0.022 | 0.419 | −2.626 | 0.009* |
| Interprofessional collaboration and communication | 3.355 | 0.187 | −3.000 | 0.003* | 0.548 | −0.520 | 0.603 |
| Personal and professional issues | 6.292 | 0.043* | −2.982 | 0.003* | 0.544 | −1.795 | 0.073 |
| Last hours of life | 10.105 | 0.006* | −3.221 | 0.001* | 0.588 | −2.507 | 0.012* |
| *HCA students (n = 17)* | | | | | | | |
| Disease management | 10.136 | 0.006* | −2.64 | 0.008* | 0.453 | −2.521 | 0.012* |
| Physical needs: pain | 18.392 | 0.000* | −3.344 | 0.001* | 0.574 | −3.086 | 0.002* |
| Physical needs: other | 17.375 | 0.000* | −3.877 | 0.000* | 0.665 | −2.652 | 0.008* |
| Psychological needs | 17.633 | 0.000* | −2.807 | 0.005* | 0.469 | −3.169 | 0.002* |
| Loss and grief support | 6.333 | 0.042* | −2.887 | 0.004* | 0.481 | −2.251 | 0.024 |
| Social needs | 8.824 | 0.012* | −1.979 | 0.048 | 0.330 | −2.967 | 0.003* |
| Spiritual needs | 5.880 | 0.053 | −1.976 | 0.048 | 0.329 | −2.517 | 0.012 |
| Needs related to functional status | 6.936 | 0.031* | −2.437 | 0.015* | 0.418 | −2.041 | 0.041 |
| Ethical and legal issues | 4.275 | 0.118 | −2.178 | 0.029 | 0.363 | −1.979 | 0.048 |
| Interprofessional collaboration and communication | 5.760 | 0.056 | −1.852 | 0.064 | 0.318 | −2.360 | 0.018 |
| Personal and professional issues | 6.261 | 0.044* | −1.977 | 0.048 | 0.330 | −2.389 | 0.017 |
| Last hours of life | 21.234 | 0.000* | −3.568 | 0.000* | 0.595 | −2.979 | 0.003* |

NB 0.5 = large effect; 0.3 = medium effect; 0.1 = small effect.
* Significant at $p < 0.05$ for the Friedman test and at $p < 0.017$ (Bonferonni correction) for the pairwise tests.

time and space. One participant contrasted the humanizing effect of the home visits with experiences in institutional care.

> *[There was] just a sense of giving—that one to one attention to the one who's struggling with facing aging and becoming less and less able. You're at the mercy of their [healthcare] scheduling and their needs and it's all very understandable but it feels like you're being processed through a factory of some sort and this was just the opposite. Someone coming to your home is just a very intimate thing and I think that it really says you're an important human being, I'm coming to your place (*CF).

Place extended beyond the home into the community. Having students in their home facilitated clients' sense of connection to the broader community as expressed by this participant: "*Somebody is there, somebody in the community, somebody is concerned with me*" (CC).

The time students spent inquiring about the lives of older adults was also an important part of relationship building. This personalized time helped older adults to overcome chronic illness challenges and difficulties with the healthcare system. "*I feel I'm falling through the cracks in the health system. I'm finding it difficult to get support for my needs and so having someone come see me every week like that was something that I needed. Of course, I got hooked on it [laughs]. I still need it [laughs]*" (CC). Clients spoke of the structure that the regular visits gave their lives and the discipline it imposed as they had to tidy and prepare. "*I really looked forward to it—every Friday at half past ten and I would know next week it's again. It gave my life a certain routine*" (CC).

Clients experienced a deep level of care from these visits, recognizing that students held a space for them that allowed them to express a full range of emotions without appearing uncomfortable. "*It was more than a non-verbal presence she had. I mean it was a very total kind of attention she gave to me. I really trusted her and I didn't feel any need to hold back any experience or feelings" (CC).* The family member of one client who was developing dementia spoke of the student interacting with her in such a way that she could "let go" for periods of time. *"When [student] was here, it was great because she held that space. She was a very curious student, and a very supportive student, and a very caring, listening student, and so I noticed that during the interviews I was able to let go. It's the look [student look]-I mean it makes me cry right now" (CF).* Several clients spoke of being able to talk to students about things they would not normally say to those they were close to. In this way, students opened a space for things to be said that clients might not otherwise express.

Students learned to hold this time and space for clients, recognizing the power of story, although at first some students struggled with not 'doing' tasks as part of the experience. This focus on doing was perhaps more difficult for HCAs who had less emphasis on relational practice in their education. However, in the context of the joint visits, the HCA students soon learned the importance of hearing the illness narrative. This HCA reflected on the impact of allowing a client to tell their story. "*He really needed the place to talk about his illness—because he wasn't really seeing doctors and he didn't like to talk about it with his friends at all. And so he just enjoyed having us come so we could just talk."* Students suggested that hearing and reflecting on clients' stories was awkward at times but recognized the importance of getting beyond the awkwardness. This was particularly important as it related to discussions about advance care planning. *"Everything that we've just learned in this practice which is just having those conversations that might be slightly awkward for 5 seconds but then when you start digging to the bottom of what having a voice means, it means options, it means opportunities, it means not making the decisions when it's too late to make any kind of sound, awesome proactive decisions." (RN)* This development of therapeutic relationships was recognized by students and clients as one of the most positive aspects of the clinical experience.

*Role Uncertainty*

Despite the positive experiences, clients and students expressed uncertainty about the focus of care and wondered whether they had "performed" correctly during the visits. This reflected the unique nature of the learning experience, the lack of an on-site nurse and clients' inexperience with receiving home nursing services.

Clients reflected on their contribution to the visit and wondered whether students' time was well spent. For example, one participant was conscious of trying to "*not get too long-winded*" (CC). Another said "*We kept pretty close to the nursing end of it. I hope we didn't waste their time*" (CC). Another judged the success of the visit by whether, "*she asked sensible questions. I gave sensible answers*". Good visits were generally thought of as calm, comfortable and where time went quickly.

As the clinical experience was part of a research project, there was also some uncertainty around the purpose of the research and how that related to the clinical visits. This led to speculation similar to what this family member suggested. *"From what I heard he [father] spent a lot of time talking to her [student] about his past. I was trying to second guess why she was asking. I guess she was testing his memory or something but it was not medically related" (CF).* This lack of clarity was compounded by limitations participants placed on the nursing student role. Clients' experiences were shaped largely by their experiences with nurses in hospital settings. When students queried about the holistic aspects of chronic illness management participants became confused. *"I was expecting more physiological questions. She threw me some curves with the philosophic questions*" (CC). Participants also tended to limit the capacities of student nurses to find answers to complex challenges such as incontinence.

Students were also unclear about their role in helping to meet older adult needs. Some students went into the practicum supposing that their assessment instruments would enable them to identify needs which they could then work with clients to solve. They discovered that some clients did not expect resolution of those needs, simply accepting them as the inevitable result of aging. *"He fell a few times but he didn't think it was necessary to mention that to the doctor. [He said] I have no balance because I am getting old*" (HCA). In other cases, clients did not know how to express their needs to the physician and so had simply ignored their challenges. "*The pain is quite bad all the time. She had gone to her provider but didn't address the pain because she's from a generation that if the doctor doesn't bring it up, the doctor knows best, you don't say it"* (RN). Students did not know how to address these troubling symptoms when clients did not expect them to be resolved.

This discovery, however, enabled students to learn about how older adults can easily become disenfranchised from the healthcare system. One student astutely observed that what clients expect of the healthcare system may be quite different than the reality.

> *I think of "Dr. House" and you know people want our health care system to be like that. Like having someone who is just gonna dig and dig and dig until how they find the solution. A lot of times people have to be their own advocates but they don't know how because they sort of go in once, they get shot down, and it's like okay, never mind then (HCA).*

Many clients had given up seeking help and students saw their role, in part, to connect individuals back to the system. Through these experiences students recognized the need for older adult advocacy. *"We're going to see a lot more of this in the senior community. People simply want somebody to advocate for them and say 'yeah that's a good idea, you should do that or you know let's call your doctor right now—oh your tooth's hurting—let's get that dentist appointment done'" (HCA).* What this final quote illustrates is that although there was some role uncertainty, it did not preclude valuable envisioning about what nursing roles might be possible with this population.

## Discussion

Findings from this study suggest that an educational workshop can improve RN and HCA students' self-perceived competence and knowledge in caring for those with advanced chronic illness. RN and HCA

students showed statistically significant gains, with robust effect sizes, on their self-perceived competence and knowledge between pre-workshop scores and post-workshop scores. However, not all gains were sustained through to measurement conducted at the 3-month interval. The inability to sustain these gains may be explained by student clinical contexts. HCA students participated in their first clinical experience during this time period. Heavy workloads and a task orientation often make it difficult to focus on these more intangible areas such as spiritual and ethical care, and the development of one's own practice (Waskiewich et al., 2012; McClement et al., 2010). Likewise, RN students, particularly in rural areas, practice in clinical contexts where there are no interdisciplinary teams dedicated to solving the complex pain and symptom challenges characteristic of advancing chronic illness (Pesut et al., 2012). A clinical context in which these important competencies can be developed is required. The innovative clinical placement described here may be one such context. Sample sizes were too small to analyze the result of the innovative clinical experience statistically, but qualitative findings suggest that students learned important supportive care competencies. Clients provided examples of how students enabled them to realize choices and make changes to better cope with their environment, an important aspect of health (World Health Organization, 1984). Students described a clinical context in which relationships with clients contributed to their professional identity which in turn had the potential to develop their capacities in spiritual and ethical care. Seeing clients in the home and hearing their illness narratives gave students a deeper appreciation of the complexity facing older adults, a finding that has been described elsewhere in the homecare clinical education literature (Aselton, 2011). However, the challenging symptoms reported by these clients, and the difficulties that students had addressing these symptoms, would require further development to better support student learning. Older adults with multiple comorbidities may attribute their symptoms simply to aging and thus are reluctant to seek help (Mason et al., 2014). A solution would be to include the primary care physician more purposefully in the learning experience so that symptoms could be addressed within an interprofessional collaborative partnership.

There are limitations to consider with this innovative clinical placement. First, this was conducted in a rural context where students and their supervising faculty are typically rural insiders with pre-existing relationships (Yonge et al., 2013); it may be challenging to recruit older adults for participation in an experience such as this in urban areas where the community connections may not be as strong. Second, while innovative placements may prepare students for emerging nursing roles, without a strong nursing presence students may be less well prepared in traditional practice competencies (Pijl-Zieber and Kalischuk, 2011). Students in this innovative clinical experienced some challenges in relationship to their role, despite a strong faculty presence. Further investigation is required to more fully determine the benefits and limitations of this type of placement.

## Conclusion

In conclusion, this study suggests that collaborative education for nursing and healthcare assistant students can enhance self-perceived knowledge and competence in supportive care of adults with advanced chronic illness. Future work is needed to find ways to sustain these gains. An innovative clinical experience can maximize reciprocal learning while providing nursing services to a population that is not receiving home-based care.

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